

IN THE CLAIMS:

Please amend claims 1-2, 4-18, 20-34, add new claims 35-64, and cancel claims 3 and 19 without prejudice or disclaimer as follows.

1. (Currently Amended) A method ~~for signal processing in a receiver or in a transmitter of a radio system~~, comprising:

first determining for different ~~circuit arrangement nodes~~ of a circuit arrangement ~~at least one~~ one or more -predetermined operation operations to execute~~;~~;

second determining one or more division criteria for signal classes for dividing signals or signal components~~;~~;

dividing at least one of the signals or signal components according to the one or more division criteria for the signal classes~~;~~ and

executing the predetermined operations in the circuit arrangement nodes ~~signal-~~ classwise according to the signal classes,

wherein the circuit arrangement is at least substantially in accordance with a combined tree structure, wherein at least one tree branch performs transmitter tasks and at least one second branch performs receiver tasks, and in which circuit arrangement one or more nodes of different branches is connected in a predetermined manner.

2. (Currently Amended) A method ~~for signal processing in a receiver or in a transmitter of a radio system~~, comprising:

first determining for different circuit arrangement nodes at least one operation to execute and selecting a modification level from the circuit arrangement;

merging together nodes in the selected modification level ~~nodes~~ and deleting irrelevant nodes and links between the nodes and/or adding new links;

second determining one or more division criteria for signal classes for dividing the signals or signal components;

dividing at least one of the signals or signal components according to the one or more division criteria for signal classes; and

executing the ~~predetermined~~ determined operations in the circuit arrangement ~~nodes signal-classwise~~ according to the signal classes.

3. (Cancelled)

4. (Currently Amended) A method comprising:

first determining for different nodes of a circuit arrangement one or more predetermined operations to execute;

second determining one or more division criteria for signal classes for dividing signals or signal components;

dividing at least one of the signals or signal components according to the one or more division criteria for the signal classes; and

executing the predetermined operations in the circuit arrangement nodes according to the signal classes.

~~The method as claimed in of claim 1,~~ wherein the circuit arrangement is at least substantially in accordance with a centralized loop such that at least two subtrees are connected to the loop, ~~of which subtrees~~ wherein at least one subtree performs ~~the~~ tasks of radio-frequency parts and at least one second subtree performs ~~the~~ tasks of baseband parts.

5. (Currently Amended) The method ~~as claimed in of~~ claim 1, wherein the signals or the signal components transfer packet-form data and the signal classes are indicated in ~~the a~~ a packet header.

6. (Currently Amended) The method ~~as claimed in of~~ claim 1, wherein the nodes perform ~~the~~ tasks of ~~the~~ radio-frequency parts or ~~the~~ baseband parts.

7. (Currently Amended) The method ~~as claimed in of~~ claim 1, wherein the circuit arrangement is configured to enable ~~enables~~ transfer of feedback information.

8. (Currently Amended) The method ~~as claimed in of~~ claim 1, wherein said signals comprise signals to be modulated in different manners in one or more baseband nodes, wherein the modulated signals are divided into different signal classes.

9. (Currently Amended) The method ~~as claimed in~~ of claim 1, wherein data can be transmitted from the nodes in unicast to one node (~~unicast~~) or in multicast or broadcast to a plurality of nodes (~~multicast or broadcast~~).

10. (Currently Amended) The method ~~as claimed in~~ of claim 1, wherein network traffic load is monitored ~~signal classwise~~ according to the signal classes.

11. (Currently Amended) The method ~~as claimed in~~ of claim 1, wherein the signal classes constitute a hierarchic signal class system, ~~which class system comprises~~ comprising one or more levels.

12. (Currently Amended) The method ~~as claimed in~~ of claim 1, wherein inter-node links have a maximum capacity, ~~within which the~~ wherein number and type of the transmitted signal classes can be altered.

13. (Currently Amended) The method ~~as claimed in~~ of claim 1, wherein ~~the~~ a quality class is taken into account when the signal is clipped.

14. (Currently Amended) The method ~~as claimed in~~ of claim 1, wherein ~~the signal power is measured quality-classwise~~ the signals are divided into quality classes and signal power is measured in each of the quality classes.

15. (Currently Amended) The method ~~as claimed in~~ of claim 1, wherein the signals having different requirements for modulation accuracy are divided into different signal classes.

16. (Currently Amended) The method ~~as claimed in~~ of claim 1, wherein the signals are divided into different signal classes after ~~of~~ at least one of ~~the following:~~ spatial, temporal or frequency-level pre-processing.

17. (Currently Amended) The method ~~as claimed in~~ of claim 1, wherein the signals are divided into different signal classes after interference cancellation pre-processing.

18. (Currently Amended) An apparatus ~~A circuit arrangement for signal processing in a receiver or in a transmitter of a radio system, the circuit arrangement comprising:~~

~~circuit arrangement~~ nodes arranged to perform at least one operation;

a dividing unit configured to divide ~~means for dividing~~ at least one of the signals or signal components according to one or more predetermined division criteria for signal classes; and

a performing unit configured to perform ~~means for performing~~ predetermined operations ~~signal-classwise~~ according to the signal classes,

wherein the apparatus is configured substantially in a combined tree structure, whereby at least one first tree branch performs transmitter tasks and at least one second branch performs receiver tasks, and wherein one or more nodes of different branches is are connected in a predetermined manner.

19. (Cancelled)

20. (Currently Amended) An apparatus comprising:

nodes arranged to perform at least one operation;

a dividing unit configured to divide at least one signals or signal components according to one or more predetermined division criteria for signal classes; and

a performing unit configured to perform predetermined operations according to the signal classes.

~~The circuit arrangement apparatus as claimed in of claim 18, wherein the circuit arrangement apparatus is at least configured~~ substantially in accordance with a centralized loop such that at least two subtrees are connected to the loop, ~~of which subtrees wherein~~

at least one first subtree performs ~~the~~ tasks of radio-frequency parts and at least one second subtree performs ~~the~~ tasks of baseband parts.

21. (Currently Amended) The ~~circuit arrangement~~apparatus ~~as claimed in~~ of claim 18, wherein the signals or the signal components transfer packet-form data and the signal classes are indicated in the packet header.

22. (Currently Amended) The ~~circuit arrangement~~apparatus ~~as claimed in~~ of claim 18, wherein the nodes perform ~~the~~ tasks of radio-frequency parts or baseband parts.

23. (Currently Amended) The ~~circuit arrangement~~apparatus ~~as claimed in~~ of claim 18; further comprising a transferring unit configured to transfer ~~means for transferring~~ feedback information.

24. (Currently Amended) The ~~circuit arrangement~~apparatus ~~as claimed in~~ of claim 18, further comprising a dividing unit configured to divide ~~means for dividing~~ the signals to be modulated in different manners into different signal classes.

25. (Currently Amended) The ~~circuit arrangement~~apparatus ~~as claimed in~~ of claim 18, further comprising a transmitting unit configured to transmit ~~means for transmitting~~ data from the nodes to one node (~~unicast~~) or a plurality of nodes (~~multicast or broadcast~~).

26. (Currently Amended) The ~~circuit arrangement~~apparatus as claimed in claim 18, further comprising a monitoring unit configured to monitor ~~means for monitoring~~ network traffic load ~~signal classwise~~according to the signal classes.

27. (Currently Amended) The ~~circuit arrangement~~apparatus ~~as claimed in~~ of claim 18, wherein the signal classes constitute a hierarchic signal class system, ~~which class system comprises~~ comprising one or more levels.

28. (Currently Amended) The ~~circuit arrangement~~apparatus ~~as claimed in~~ of claim 18, wherein links between the nodes have a maximum transfer capacity, ~~within which~~ wherein the a number and a type of the transferred signal classes can be altered.

29. (Currently Amended) The ~~circuit arrangement~~apparatus ~~as claimed in~~ of claim 18, further comprising an accounting unit configured ~~means to take into account the~~ quality class when one of the signals ~~signal~~ is clipped.

30. (Currently Amended) The ~~circuit arrangement~~apparatus ~~as claimed in~~ of claim 18, further comprising a dividing unit configured to ~~means for measuring the signal power quality classwise~~ divide the signals into quality classes and measuring signal power in each of the quality classes.

31. (Currently Amended) The ~~circuit arrangement apparatus as claimed in~~ claim 18, further comprising a control unit, which controls the division into signal classes.

32. (Currently Amended) The ~~circuit arrangement apparatus as claimed in~~ claim 18, further comprising a dividing unit configured to divide ~~means for dividing~~ signals having different requirements for modulation accuracy into different signal classes.

33. (Currently Amended) The ~~circuit arrangement apparatus as claimed in~~ claim 18, further comprising means for dividing the signals into different signal classes after ~~of~~ at least one of ~~the following~~: spatial, temporal or frequency-level pre-processing.

34. (Currently Amended) The ~~circuit arrangement apparatus as claimed in~~ claim 18, further comprising a dividing unit configured to divide ~~means for dividing the~~ signals into different signal classes after interference cancellation pre-processing.

35. (New) A computer program embodied on a computer readable medium, the computer readable medium storing code comprising computer executable instructions comprising:

first determining for different nodes of a circuit arrangement one or more predetermined operations to execute;

second determining one or more division criteria for signal classes for dividing signals or signal components;

dividing at least one of the signals or signal components according to the one or more division criteria for signal classes; and

executing the predetermined operations in the circuit arrangement nodes according to the signal classes,

wherein the circuit arrangement is at least substantially in accordance with either (a) a combined tree structure, wherein at least one tree branch performs transmitter tasks and at least one second branch performs receiver tasks, and in which circuit arrangement one or more nodes of different branches is connected in a predetermined manner; or (b) a centralized loop such that at least two subtrees are connected to the loop, wherein at least one subtree performs tasks of radio-frequency parts and at least one second subtree performs tasks of baseband parts.

36. (New) A circuit arrangement comprising:

a plurality of nodes arranged to perform at least one operation; wherein said nodes are configured to divide at least one signal or component of said signal according to one or more predetermined division criteria for signal classes and to perform predetermined operations according to the signal classes.

37. (New) A first node configured to:
arranged with at least one second node to perform at least one operation;
divide a signal or a component of said signal according to one or more
predetermined division criteria for signal classes; and
perform predetermined operations according to the signal classes.

38. (New) The method of claim 4, wherein the signals or the signal components
transfer packet-form data and the signal classes are indicated in a packet header.

39. (New) The method of claim 4, wherein the nodes perform tasks of radio-
frequency parts or baseband parts.

40. (New) The method of claim 4, wherein the circuit arrangement is configured
to transfer feedback information.

41. (New) The method of claim 4, wherein said signals comprise signals to be
modulated in different manners in one or more baseband nodes, wherein the modulated
signals are divided into different signal classes.

42. (New) The method of claim 4, wherein data can be transmitted from the
nodes in unicast to one node or in multicast or broadcast to a plurality of nodes.

43. (New) The method of claim 4, wherein network traffic load is monitored according to the signal classes.

44. (New) The method of claim 4, wherein the signal classes constitute a hierarchic signal class system comprising one or more levels.

45. (New) The method of claim 4, wherein inter-node links have a maximum capacity, wherein number and type of the transmitted signal classes can be altered.

46. (New) The method of claim 4, wherein a quality class is taken into account when the signal is clipped.

47. (New) The method of claim 4, wherein the signals are divided into quality classes and signal power is measured in each of the quality classes.

48. (New) The method of claim 4, wherein the signals having different requirements for modulation accuracy are divided into different signal classes.

49. (New) The method of claim 4, wherein the signals are divided into different signal classes after at least one of spatial, temporal or frequency-level pre-processing.

50. (New) The method of claim 4, wherein the signals are divided into different signal classes after interference cancellation pre-processing.

51. (New) The apparatus of claim 20, wherein the signals or the signal components transfer packet-form data and the signal classes are indicated in the packet header.

52. (New) The apparatus of claim 20, wherein the nodes perform tasks of radio-frequency parts or baseband parts.

53. (New) The apparatus of claim 20 further comprising a transferring unit configured to transfer feedback information.

54. (New) The apparatus of claim 20, further comprising a dividing unit configured to divide the signals to be modulated in different manners into different signal classes.

55. (New) The apparatus of claim 20, further comprising a transmitting unit configured to transmit data from the nodes to one node or a plurality of nodes.

56. (New) The apparatus as claimed in claim 20, further comprising a monitoring unit configured to monitor network traffic load according to the signal classes.

57. (New) The apparatus of claim 20, wherein the signal classes constitute a hierarchic signal class system comprising one or more levels.

58. (New) The apparatus of claim 20, wherein links between the nodes have a maximum transfer capacity, wherein a number and a type of the transferred signal classes can be altered.

59. (New) The apparatus of claim 20, further comprising an accounting unit configured to take into account quality class when one of the signals is clipped.

60. (New) The apparatus of claim 20, further comprising a measuring unit configured to measure signal power, wherein the signals are divided into quality classes and the signal power is measured in each of the quality classes.

61. (New) The apparatus of claim 20, further comprising a control unit, which controls the division into signal classes.

62. (New) The apparatus of claim 20, further comprising a dividing unit configured to divide signals having different requirements for modulation accuracy into different signal classes.

63. (New) The apparatus of claim 20, further comprising a dividing unit configured to divide the signals into different signal classes after at least one of spatial, temporal or frequency-level pre-processing.

64. (New) The apparatus of claim 20, further comprising a dividing unit configured to divide the signals into different signal classes after interference cancellation pre-processing.